

IN THE CLAIMS

Please amend the claims as follows:

Claim 1 (Canceled).

Claim 2 (Currently Amended): ~~The radio data communications method as set forth in claim 1, wherein:~~ A radio data communications method in which at least one of a first radio network controller and a second radio network controller performs a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing the soft handover, the method including steps of:

changing radio network controllers that perform the soft handover process; and  
transmitting data as part of the soft handover process in downlink radio data  
communications in which the first radio network controller transmits data to the mobile terminal via the second radio network controller and a base station, the soft handover processing including comprising the steps of [[:]]

determining a first transmission timing of transmitting the data to all base stations to which the mobile terminal is connected when performing the soft handover [[:]].

determining a second transmission timing of transmitting the data to the second radio network controller,

dividing the data and providing a sequence number to each of the data fragments based on a sequence number providing status[[:]], and

transmitting the data fragments to all the base stations at the first transmission timing,  
transmitting at least a data fragment to the second radio network controller wherein  
said data fragment is added with information requesting the sequence number providing  
status, and

transmitting the sequence number providing status from the second radio network controller to the first radio network controller, wherein the sequence number providing status includes the number of data fragments having been transmitted since the data fragment added with information requesting the sequence number providing status.

Claim 3 (Currently Amended): The radio data communications method as set forth in claim 2, wherein:

a server determines that the first radio network controller should perform the soft handover process together with the second radio network controller according to a notification from the mobile terminal, when the second radio network controller performs the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the first radio network controller takes over a sequence number providing status from the second radio network controller;

the first radio network controller determines a second transmission timing of transmitting the data to the second radio network controller;

the first radio network controller provides the sequence number to each of the data fragments, based on the sequence number providing status;

the first radio network controller transmits the data fragments to the second radio network controller at the second transmission timing, wherein at least a data fragment is added with information requesting the sequence number providing status;

transmitting the sequence number providing status from the second radio network controller to the first radio network controller, wherein the sequence number providing status

includes the number of data fragments having been transmitted since the data fragment added with information requesting the sequence number providing status;

the first radio network controller transmits, at the first transmission timing, the data fragments to a base station managed by the first radio network controller among base stations to which the mobile terminal is connected when performing the soft handover; and

the second radio network controller transmits, at the first transmission timing, the data fragments from the first radio network controller to a base station managed by the second radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover.

Claim 4 (Original): The radio data communications method as set forth in claim 2, wherein:

a server determines that the first radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the first radio network controller transmits the data to the second radio network controller without dividing the data and without providing the sequence number to the data;

the second radio network controller divides the data and provides the sequence number to each of the data fragments based on the sequence number providing status of the first radio network controller, when detecting that the data from the first radio network controller is not divided or is not provided with the sequence number;

the second radio network controller transmits, at the first transmission timing, the data fragments to all base stations to which the mobile terminal is connected when performing the soft handover.

Claim 5 (Original): The radio data communications method as set forth in claim 2, wherein:

a server determines that the second radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the first radio network controller divides the data and provides the sequence number to each of the data fragments; and

the first radio network controller transmits, at the first transmission timing, the data fragments to all base stations to which the mobile terminal is connected when performing the soft handover.

Claim 6 (Currently Amended): The radio data communications method as set forth in claim 2, wherein:

a server determines that the second radio network controller should perform the soft handover process together with the first radio network controller according to a notification from the mobile terminal, when the first radio network controller performs the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the first radio network controller determines a second transmission timing of transmitting the data to the second radio network controller;

the first radio network controller divides the data and provides the sequence number to each of the data fragments;

the first radio network controller transmits the data fragments to the second radio network controller at the second transmission timing, wherein at least a data fragment is added with information requesting the sequence number providing status;

transmitting the sequence number providing status from the second radio network controller to the first radio network controller, wherein the sequence number providing status includes the number of data fragments having been transmitted since the data fragment added with information requesting the sequence number providing status;

the first radio network controller transmits, at the first transmission timing, the data fragments to a base station managed by the first radio network controller among base stations to which the mobile terminal is connected when performing the soft handover; and

the second radio network controller transmits, at the first transmission timing, the data fragments from the first radio network controller to base stations managed by the second radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover.

Claim 7 (Currently Amended): The radio data communications method as set forth in claim [[1]] 2, wherein:

the soft handover process in uplink radio data communications in which a mobile terminal transmits data to the first radio network controller via a base station and the second radio network controller comprising the steps of:

performing selective combining of data fragments from all base stations to which the mobile terminal is connected when performing the soft handover; and, wherein the selective combining is at least according to the sequence number of the data fragments; and

reconstructing the data from the selectively combined data fragments.

Claim 8 (Original): The radio data communications method as set forth in claim 7, wherein:

a server determines that the first radio network controller should perform the soft handover process together with the second radio network controller according to a notification from the mobile terminal, when the second radio network controller performs the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the second radio network controller performs a selective combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover;

the first radio network controller performs a selective combining of the selectively combined data fragments from the second radio network controller, and the data fragments from a base station managed by the first radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover; and

the first radio network controller reconstructs the data from the selectively combined data fragments.

Claim 9 (Original): The radio data communications method as set forth in claim 7, wherein:

a server determines that the first radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the second radio network controller performs a selectively combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover;

the second radio network controller reconstructs the data from the selectively combined data fragments, and notifies the first radio network controller of the fact; and

the first radio network controller stops the selective combining and reconstruction of the data fragments in response to the notification from the second radio network controller.

Claim 10 (Original): The radio data communications method as set forth in claim 7, wherein:

a server determines that the second radio network controller should not perform the soft handover process according to a notification from the mobile terminal, when the first radio network controller and the second radio network controller perform the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the second radio network controller stops the selective combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover, and transfers the data fragments to the first radio network controller;

the first radio network controller performs the selective combining of the data fragments transferred from the second radio network controller, and the data fragments from a base station managed by the first radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover; and

the first radio network controller reconstructs the data from the selectively combined data fragments.

Claim 11 (Original): The radio data communications method as set forth in claim 7, wherein:

a server determines that the second radio network controller should perform the soft handover process together with the first radio network controller according to a notification from the mobile terminal, when the first radio network controller performs the soft handover process;

the server notifies the first radio network controller and the second radio network controller of the determination;

the second radio network controller performs the selective combining of the data fragments from base stations managed by the second radio network controller among base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification from the server;

the first radio network controller performs the selective combining of the selectively combined data fragments from the second radio network controller, and the data fragments



from a base station managed by the first radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover; and

the first radio network controller reconstructs the data from the selectively combined data fragments.

Claim 12 (Canceled).

Claim 13 (Currently Amended): A radio network controller for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing soft handover, in downlink radio data communications in which data is transmitted to the mobile terminal via a base station, the radio network controller comprising:

a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process as a first radio network controller;

a data divider configured to divide the data in response to the notification;

a sequence number provider configured to provide a sequence number to each of the data fragments, based on a sequence number providing status, in response to the notification;

a transmission timing determiner configured to determine a first transmission timing of transmitting the data to a base station managed by the radio network controller among base stations to which the mobile terminal is connected when performing the soft handover, and to determine a second transmission timing of transmitting the data to a second radio network controller, in response to the notification; and

~~a data transmission configured to transmit data fragments to the second radio network controller at the second transmission timing, and to transmit at the first transmission timing the data fragments to the base station managed by the radio network controller among the~~

~~base stations to which the mobile terminal is connected when performing the soft handover in response to the notification~~

a data transmitter configured to transmit data fragments to the second radio network controller at the second transmission timing, wherein at least a data fragment is added with information requesting the sequence number providing status, wherein

the data transmitter is further configured to transmit the data fragments at the first transmission timing to the base stations managed by the radio network controller among the base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification.

Claim 14 (Original): The radio network controller as set forth in claim 13, wherein:  
the data transmitter adds information requesting the sequence number providing status to the data fragment for transmission to the second radio network controller; and  
the sequence number provider takes over the sequence number providing status, according to a sequence number provided to the data fragment added with the information requesting the sequence number providing status notified by the second radio network controller, and the number of data fragments transmitted until receiving the sequence number since transmitting the data fragment added with the information requesting the sequence number providing status.

Claims 15-16 (Canceled).

Claim 17 (Currently Amended): A radio network controller for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal

is performing the soft handover, in uplink radio data communications in which the mobile terminal transmits data via a base station, the radio network controller comprising:

a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process as a first radio network controller;

a selective combiner configured to perform selective combining of data fragments from all base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification, wherein the selective combining is performed at least according to the sequence number in each of the data segments; and

a reconstructor configured to reconstruct the data from the selectively combined data fragments, in response to the notification.

Claim 18 (Currently Amended): A radio network controller for performing a soft handover process for allowing soft handover of a mobile terminal, when the mobile terminal is performing the soft handover, in uplink radio data communications in which the mobile terminal transmits data via a base station, the radio network controller comprising:

a notification receiver configured to receive a notification instructing the radio network controller to perform the soft handover process;

a selective combiner configured to perform selective combining of data fragments from base stations managed by the radio network controller among all base stations to which the mobile terminal is connected when performing the soft handover, in response to the notification, wherein the selective combining is performed at least according to the sequence number in each of the data segments; and

a data transmitter configured to transmit the selectively combined data fragments to a first radio network controller in response to the notification.

Claim 19 (Canceled).